

**REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

**Status of the Claims**

Claims 1-7, 9, 11, 13-17, 19-21, 23-27, 29 and 30 have been amended. The recitations of dependent claims 12 and 22 are incorporated into independent claims 11 and 21, respectively. Accordingly, claims 12 and 22 are requested to be cancelled. After amending the claims as set forth above, claims 1-11, 13-21 and 23-31 are now pending in this application with claims 8, 18 and 28 being withdrawn.

**Election/Restrictions**

Species B, claims 10, 20 and 30 was elected for examination. The Office Action asserts that claims 8, 9, 18, 19, 28 and 29 are withdrawn. However, Applicants note that claims 9, 19 and 29 should not be withdrawn because they were identified as generic along with claims 1-7, 11-17, 21-27 and 31 in the Office Action dated March 24, 2010. Accordingly, claims 9, 19 and 29 have not been identified as withdrawn.

**Drawings**

Figures 22, 29 and 36 were objected to. In response, the identifiers for the sequences disclosed in Figures 22, 29, and 36 have been inserted into the "Brief Description" via the substitute specification. Accordingly, Applicants request that the objections be withdrawn.

**Sequence Compliance**

The application was objected to for not including sequence listings. In response, Applicants have attached the required sequence listings in compliance with 37 CFR 1.821-1.825.

**Specification**

The specification was objected to for not complying with 35 U.S.C. § 112, first paragraph. In response, Applicants have amended the specification. A substitute specification is submitted with this Amendment and Reply.

**Claim Objections**

Claims 2, 7, 12, 17, 22 and 27 were objected to for informalities. In response, Applicants have cancelled claims 12 and 22 and amended claims 2, 7, 17 and 27 to correct the informalities. Accordingly, Applicants request that the objections be withdrawn.

**Claim Rejections under 35 U.S.C. § 101**

Claims 11-17, 20-27, 30 and 31 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. In response, Applicants have amended independent claim 11 to be tied to a particular machine. In addition, Applicants have cancelled claim 31 and amended claims 21, 23-27, 29 and 30 to recite “a non-transitory computer-readable medium.” Accordingly, Applicants request that the rejection be withdrawn and claims 11-17, 20-27 and 30 be allowed.

**Claim Rejections under 35 U.S.C. § 112**

Claims 1-31 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response, Applicants have amended claims 1-7, 9, 11, 13-17, 19-21, 23-27, 29 and 30. With respect to the rejection of claims 1, 11 and 21, Applicants refer the Examiner to ¶¶ [0165]-[0166] of the published application for support of the “post-structural-change” limitation and ¶¶ [0175]-[0185] of the published application for support of the “spatial point” limitation. In view of these passages, applicants respectfully submit that the intent and scope of claims 1, 11 and 21 is clear. Accordingly, Applicants request that the rejection be withdrawn and claims 1-11, 13-21 and 23-31 be allowed.

**Claim Rejections – 35 U.S.C. § 102**

Claims 1, 3-6, 10, 11, 13-16, 20, 21, 23-26, 30, and 31 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by *Steroids* (2003) Vol. 68, pp. 329-339 (“Hammer”). Claims 1-7, 10-17, 20-27, 30, and 31 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by WO 2002/057954 (“’954”). Claims 1, 3-6, 10-11, 13-16, 20-21, 23-26, 30, and 31 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by U.S. Pub. No. 2003/0190670 (“Bursavich”). Applicants respectfully traverse the rejections.

**Hammer**

While not acquiescing to the grounds of the rejections, Applicants hereby amend independent claims 11 and 21 by combining them respectively with claims 12 and 22, which are not rejected as being anticipated by the teachings of Hammer. As a result of the amendments, because Hammer does not disclose each and every element recited in present independent claims 11 and 21, Hammer’s teachings cannot anticipate claims 11 and 21, or their respective corresponding dependent claims.

Hammer’s teachings cannot anticipate present independent claim 1. Hammer describes a series of techniques and steps that are used in a molecular dynamic simulation analysis. However, Hammer is completely silent with respect to having a single apparatus comprising several different units; each performs a distinct action, as recited in present independent claim 1. Accordingly, because Hammer does not teach each and every element recited in present independent claim 1, Hammer’s teachings cannot anticipate claim 1, or its corresponding dependent claims.

**’954**

The teachings of ’954 cannot anticipate present independent claims 1, 11, and 21. The Office on pages 10-11 of the Office Action references several terms (e.g., “conformation,” “atomic coordinate,” molecular dynamic calculations,” etc.) as disclosed in ’954 and alleges that accordingly ’954’s teachings anticipate the presently claimed invention. Applicants respectfully traverse and submit that the Office has misconstrued the teachings of ’954.

'954 discloses constructing an arbitrary protein from a reference protein by following a series of steps as illustrated in the figure on the front page of the application. '954 is completely silent with respect to "screening for a ligand that binds to a protein," much less performing a series of steps related to the ligand, as recited in the present claims. Specifically, nowhere does '954 disclose designating a spatial point, calculating an interaction function, and evaluating the ligand, all of which are related to the ligand. The deficiencies of '954's teachings are particularly evident in the contrast between the figure on the front page of '954 and Figure 1 of the present Specification. The figure on the front page of '954 describes the process of '954, whereas Fig. 1 in the present Specification provides a general description of an exemplary embodiment of the presently claimed invention. The contrast clearly demonstrates that '954 does not teach any of the recitations with respect to the screening of a ligand in the present claims.

Because '954 does not disclose each and every element recited in the present claims, '954's teachings cannot anticipate the present claims.

### **Bursavich**

While not acquiescing to the grounds of the rejections, Applicants hereby amend independent claims 11 and 21 by combining them respectively with claims 12 and 22, which are not rejected as being anticipated by the teachings of Bursavich. As a result of the amendments, because Bursavich does not disclose each and every element recited in present independent claims 11 and 21, Bursavich's teachings cannot anticipate claims 11 and 21, or their respective corresponding dependent claims.

Bursavich's teachings cannot anticipate present independent claim 1. In fact, Bursavich's teachings are distinct from the presently claimed invention. Bursavich attempts to generate chemical structures of putative non-peptide inhibitors of biologically active receptors by altering the conformation of a binding site of a receptor-ligand complex and then creating a structure from the altered binding site. Bursavich's teachings have little to do with screening for a ligand by performing a series of steps related to the ligand, much less having a

plurality of units in a single apparatus performing these steps, as recited in present independent claim 1.

Accordingly, because Bursavich does not teach each and every element recited in present independent claim 1, Bursavich's teachings cannot anticipate claim 1, or its corresponding dependent claims.

At least in view of the foregoing reasons, Applicants respectfully request that the rejections be withdrawn.

**Conclusion**

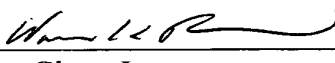
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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